## Operations Management Dr. Inderdeep Singh Department of Mechanical & Industrial Engineering Indian Institute of Technology, Roorkee

## **Lecture – 05 Operations Strategy**

[FL] Friends, welcome to the last session of week one, as you are well aware that in every week we have to cover 5 sessions of half an hour each and 2 and a half hours of discussion in a week.

We have already discussed in this week the introduction to this course, that how we are going to go about this course on operations management. Then we have seen in the first session that what do you mean by operations management? What are the basic definitions of operations management and then we have covered what are the objectives with which we carry out the management of operations.

Then we have seen that what are the functions and scope of operations management? And in the last session if you remember, we have covered type of production systems in which, we have seen that there are intermittent type of production system and there are continuous type of production systems.

So, we are currently focusing on the introductory part of our course and in that we must address an important topic that is operations strategy. That is what type of decisions we must make or we are required to make when we are managing our operations. So, starting from the product to the launch in the market so, we basically we can see that we have to conceptualize that what the company must make.

How the company must make it? Who are the people? Who are responsible for making it? And then finally, who are the people who are going to check the quality of the product? And finally, how it will be dispatched or sold in the market? So, starting from the identification of the need to the final launch in the market, whatever operations are carried out are all covered under the broad umbrella of operations management.

Now, strategy basically is our plan, our thinking, that how we are going to follow or how we are going to plan our things. So, that we make a successful product, the company is

successful in the market the product gains much profit for the organization or the product is one of the best products of it is class in the market.

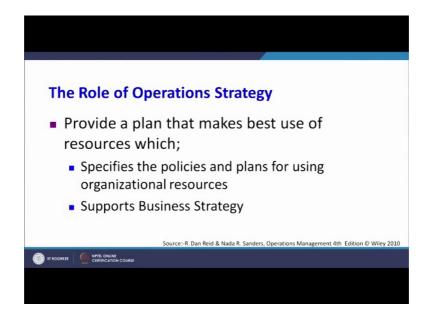
So, every company has these objectives or these may be a goals or aims. So, with those goals and aims how we should work in the background so that these goals are met. We have to focus on the product; we have to focus on the processes, we have to focus on the procedures, we have to focus on the management of finances, we have to focus on the management of manpower. And when we are able to plan all these things effectively and efficiently we are productive and our productivity reflects in the success of the organization.

So, we are today going to focus on the basic principles of operations strategy, we are going to see that what are the area or functional areas, where the management need to focus in order to develop a successful strategy for converting the raw materials into the final product. At every stage we have to keep a focus so that our overall objectives. If you remember in the second session we have covered what are the overall objectives of operations management, that we must be able to produce a good quality product in the right quantity, at right time, and at reasonable cost or at competitive cost.

So, when we plan a strategy or when we develop a strategy we focus on these overall objectives. The overall objectives being as I have already discussed 4 keywords we have to always remember quality, quantity, time, and the cost. So, these 4 are the important objectives that we have to keep in mind and our strategy we should be such that all these 4 objectives are met for the organization and we are able to produce a product, which is successful in the market or we are able to deliver the services which are widely acceptable by the customers.

So, we this background we are going to see the term operations strategy in today's session. And try to see what are the different types of strategies that are developed and what are the important factors that we need to consider? When we are developing a strategy for managing our operations? So, quickly will go through the discussion today and on your screen you can see the role of operations strategy.

(Refer Slide Time: 05:08)



It provides a plan that makes best use of resources. Now we have seen in our introductory session in the first week of our discussion only we have seen that inputs are converted or transformed into the outputs. Now inputs are men material machine equipment and other infrastructural inputs. So, these inputs are transformed using chemical and mechanical process is into a product.

Now, what is the role? The role is that we have to plan the effective efficient productive use of our resources and we have to specify the policies and plans for using the organizational resources. So, operations strategy basically is nothing it is a plan that makes best use of the resources, which specify the policies and plans for using organizational resources.

Now, our strategy maybe that we are going to use our manpower most effectively and efficiently, our plan can be that we are going to use our machines in the most effective and efficient manner with minimum downtime, with minimum breakdown. So, those can be our strategies and then we have to develop our operations strategy in such a way that our overall business strategy is achieved or our operations strategy supports the overall business strategy.

And the main objective of the overall business strategy is to make profit to be successful and to be financially stable. So, we will see that what do we mean by business strategy and what are the various verticals under business strategy

(Refer Slide Time: 07:06)



So, here you can see on your screen the business or the functional strategy based on different functions in an organization. If you remember in one of our previous sessions we have seen that there are broadly 3 verticals. Now one vertical can be related to the finance, another vertical can be related to the marketing and the third vertical is related to the operations.

So, our course is related to operations management, but we will see that the operations vertical also has to tie up coordinate collaborate, corporate, with the other 2 verticals that is the finance vertical and the marketing vertical.

Why because from marketing we will get the needs and requirements of the customer. The desires of the customer what does the customer wants? Whether the customer wants variety or the customer wants quality or the customer wants a specific combination of colours. So, what are the needs and requirements of the customer those will come to us from the marketing team? And then our operations team will help in the development of the new products.

So, in different verticals seems to be independent, but they are not independent they are always working together for the success of the organization, but our target in this course is the vertical on operations management. Then we have courses like financial management also, we have courses like marketing management also, which will focus on

the other verticals. So, basically the business strategy also as we have seen defines the long range plan for the company.

Now, strategic plans are mostly long range plans only and the business strategy we will see will plan for the next 5 years, for the next 10 years, they will make a plan. Now that strategy will be dependent and the on the marketing strategy, operations strategy, and finance strategy, rather I must say that once the business strategy is finalized it is the success of business strategy will depend upon, how the business strategy is converted into the marketing strategy, operations strategy, and finance strategy.

Because once we know that this is the objective of the company or this is the plan for the company for the next 5 years. All these 3 verticals have to take that as the goal and work towards the success of that goal or work towards the achievement of that goal. So, here you can see the marketing strategy, it will define the marketing plans to support the business strategy.

Now, business strategy basically is we can take any example if we take an examples of a service provider there are number of service providers for the mobile phones. So, if a service provider, if a particular service provider, wants to venture into a completely new technological domain in the next 5 years the marketing strategy has to support that. They have to make plan in such a way that the customers are able to adapt to that technology. Customers are made aware of that technology; customers are made aware about the advantages of that technology as well as the business plan that the company is going to launch.

So, the marketing is very very important. So, marketing will help in the achievement of the business strategy or the business plan, which has been formulated by the company.

Similarly, operations have to work overtime in order to achieve the target set by the business strategy. And operations strategy again because it is a strategy we have to develop up plans for the operations function to support the business strategy. Similarly in finance strategy we have to develop financial plans to support the business strategy.

So, in nutshell this particular slide gives us an idea that there is an overall business strategy, which may which makes strategic plans for the next 5 to 10 years. And this business strategy has to be supported by the various functions of an organization. That is

the financial arm of the organization the marketing arm of the organization and most importantly the operations arm of that organization. All 3 have to work in tandem to achieve the overall plan or the overall objective of the organization established in the business strategy.

(Refer Slide Time: 12:02)



Now, to develop a business strategy we need to focus on certain factors. As we have seen that we have taken an example of a service provider, they can take a decision that after 5 years we are going to completely switch into a new technology. That is their plan for after for the next 5 years. Now for that plan to be successful the finance marketing and operations team have to work together to achieve that target or achieve that objected it, but how that plan is made? How that business strategy is developed?

So, there they will consider the strategic decisions and different factors. What are the factors? First thing is what business is the company in. So, in place of in it should be is what business is the company in? And then there is a question mark. We have to make we have to consider that, what is the business that the company is doing in the current situation. Analyse and understand the market, business plans are made based on market need requirements of the customer the desires of the customer and identify the companies' trends, core competencies of the company.

Some companies will have a brand value that is their core competency; that if x company is launching this product it is going to be of the best quality; that is the brand the

company has established over the years of consistent performance. So, a company has given consistent performance in terms of quality the products have never failed, have never ditched the customers. So, that is the brand, value associated with the company. So, that can be called as one of the core competencies of the company that the company is quality conscious. Then depending upon the prevailing conditions understanding the market the company feels that there is a need or a requirement for developing a new product.

Now, they will map the 2 things together, the need plus their quality brand they will map the 2 things together and they will see that what we are currently doing? And what we need to change in the next 5 years? So, they are ready to change. So, ready to change market requirement is there and the core competency is there. When the 3 things will meet together a complete business strategy can be formulated. The company will decide that we are not going to compromise on our core competency, we are going to use it as our strength, we know what we have to do in the next 5 years based on the environmental scanning and we have identified the needs and requirements of the customer.

So, our new product or our new service is definitely going to be successful, because of what we have already done? What background research we have already done? What planning we have done successfully? So, that is basically the business strategy development that we have to focus on 3 important things.

First is the need and requirement we have to see what we are doing what we need to do. Secondly, we have to analyse the market who are our competitors? What they are doing? What are their products? How they are selling it? How aggressively they are marketing? So, the complete a business environment we need to understand and finally, focus on our strength and that will help us to develop a successful business strategy, which will be helpful for the organization to be competitive in the market.

So, we see that operations strategy broadly can be classified.

(Refer Slide Time: 15:48)



Now, you see that we have 3 types of broad verticals. The financial strategy, the marketing strategy, our focus in our course is on operations strategy. From business strategy now we are coming to the operation that is the vertical on which we are focusing our attention on.

So, first is the corporate strategy in corporate strategy we will see the mission, It is relating the organizations effort to it is long term future.

(Refer Slide Time: 16:14)



So, in business strategy, we have developed a long term vision that, what is going to be the focus of the company in the next 5 to 10 years. So, we will try to relate our strategy in core a corporate strategy in line with what has been established in the business strategy. We will focus on what business are we in who are our customers? What are our concepts and beliefs? How do we measure our performance such as growth, profits, market, share innovation. So, we will focus on a complete list of factors and we will formulate our corporate strategy.

Now, some of you may be wondering that what can be the difference between a business strategy, because there also some of the factors are common and what is a we can say corporate strategy or to summarise differentiate between business strategy and corporate strategy. So, what I personally believe is that business strategy is more we can say strategic in nature long term; high risk, maybe lot of resources are committed at the strategic level of planning or while developing a business strategy, the highest level decision making in any organization.

Once we know that this is what the company is going to be in the next 10 years' time. We have to make the plans, which are more specific in nature, more data oriented, more information oriented and then that strategy coming 1 level down from the business strategy that is the top level strategic thinking or the think tank of the organization. The corporate will be the towards the execution, the planning is at the top level and then corporate is the execution of those plans or thinking of the data, thinking of the information, planning that how that particular plan can be put into action and further detailed planning can be covered in the corporate strategy.

So, here we are see that who are our customers? What are our concepts and beliefs? What is our focus? Where are we going to how are we going to measure our performance? Where are we going to be may be at the end of 5 years all that data intensive strategy is developed at the corporate level. Then corporate strategy we will be focusing on the environment also.

(Refer Slide Time: 18:59)



It will be more data oriented what is the market share of the competitors company? How often do the competitors change their product? How often do the competitors come up with new and new technologies? How often the competitor are absoluting their product? So, it will be more data oriented. So, lot of information will be used for developing the corporate strategy

Now, scanning the environment for opportunities and threat so, the at corporate strategy level we will see that what is the competition? What is the market? What are the economic trends? Whether it is economic boom or it is the economic down ton or economic depression, social and political changes, what is the government? Who is heading the government? How the government is taking decisions? What is the focus of the government? How the government is going to change the policies or guidelines.

So, there are number of factors that have to be taken into account while formulating our strategy. So, we will see that in operations strategy, as we have seen in the previous slide.

(Refer Slide Time: 20:08)



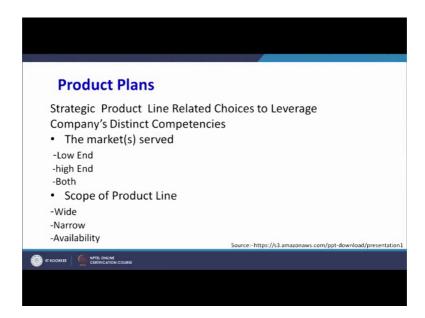
We have to focus on the corporates strategy; we have to focus on the production product plans, we have to focus on the competitive priorities, we have to focus on positioning or operations strategy.

Now, product plans we see as we know that in operations, we have to focus on the raw materials converting them or transforming them into the final products. We have to see what we are producing? What business we are in, whether we need to change or we need to stay put with that business only. So, basically we have to focus on what we have to produce? How much we have to produce? How we have to produce? That who is going to be responsible for producing that how we will check the quality of our product how we are going to distribute our product among the customers.

So, starting from the conceptualization of the product that we are doing through the environment scanning or environmental scanning, to the final launch of the product in the market everything or all operations as I have told earlier also in today's session only will fall under the operations management. And we are not currently focusing on that what type of strategic decision making is required at during the operations strategies

So, first we have seen that in operations management first is at corporate level that is the vice president of operations or the maybe general manager of operations will make a overall corporate strategy.

(Refer Slide Time: 21:45)



Then the product plans will be developed that is strategic product line related choices to leverage companies' distinct competency. So, little bit complex sentence, but we can very easily make it simpler strategic product line related choices.

So, we have to see that what is our product line, we have to make strategic decisions there and what we get what we are going to take advantage of we have to leverage on companies distinct competencies, which we have already discussed a company always has to leverage on it is core competencies.

What are the strengths of the company? Some companies very good at marketing, how they can leverage that, whatever product they will make, if they are very good at marketing the way they can rush down the product the through the thought of the customer are; they will rush down that product into the market and because of that aggressive marketing or the core competency in marketing the company may be able even push through an average product in the market.

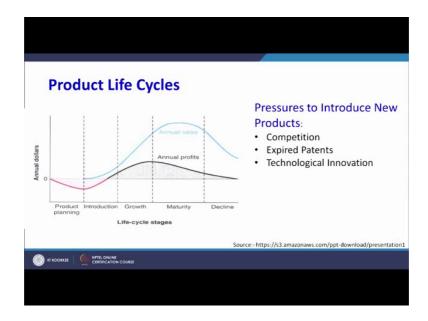
And the average product can also yield returns for the company, because of the core competency of the company that is marketing. If the core competency of the companies quality as I have already told, they will leverage that quality and we will be able to sell the product and make lot of profits in the market.

So, basically from product point of for product plans point of view strategic product line related choices have to be made that what should be our focus than we have to see that what type of market. We are serving is it a low end market high end market or it is a combination of both lower end and high end markets, then we have to see the scope of the product line whether it is wide it is narrow or the availability.

So, basically we can see that we have to overall analyse the market we have to take into account what type of market? We are looking at what is the product line that we are focusing on what type of product we want to make? Who is going to be the customer? what whether it will be children or it will be old age people or it will middle aged people or it will be anybody can use a product we have to see which specific areas we are focusing.

Whether it will be in hot and your product will be used only in hot and humid conditions or it will be used in very tough winter conditions or very may be cold conditions. So, the overall market scenario has to be understood and then only we will I be able to make a product plan and for this we have included 1 week discussion on product design and development which we are going to cover maybe next week.

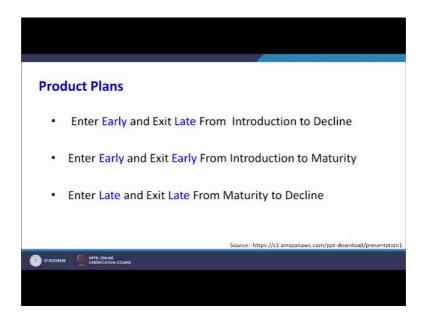
(Refer Slide Time: 24:39)



Now, product life cycle is also very very important. So, there also we have to make and we have to use this product life cycle as a strategic decision making tool regarding our product plan. That what product we are going to make or what product we are going to

obsolete from the market. So, the pressure to introduce new products is we can say focus area of product design and development. Why because of the competition because of the expired patents because of the technological innovation. So, we will cover this thing in details we I will explain this product life cycle in our discussion on product design and development.

(Refer Slide Time: 25:21)



Then product plans can be early Exit sorry enter Early and Exit late from the introduction to decline or enter early and exit early from introduction to maturity and enter late and exit late from maturity to decline.

So, basically there are 4 stages are 4 phases of product life cycle starting from introduction, then growth, then maturity and decline and these are the 4 stages on the timeline. So, next x is if you see the diagram it is life cycles stages. So, these are the 4 important life cycle stages and we have to make our product plan in such a way that we make maximum profit from the product, how that is possible that we can see when we whether that we will see when we will discuss product life cycle?

And it will be helpful to us in making our strategy, that whether the maturity phase should be elongated or once the product sales have stagnated we need to completely exit the product from the market. The time between maturity and the exit of the product or the time between introduction to the decline of the product, all these things we need to be discussed, debated and decided in the favour of the organization.

If proper decisions or strategies are not formulated related to or based on the product life cycle, the company may lose lot of profit or company may lose the marketing advantage or the market advantage, which it may have created because of the launch of a new product in the market.

So, suppose a company launching a new product in the market they gain some competitive advantage based on some new technology that they have used in the product, but once the product has attained the maturity level if the company is not able to take strategic decisions that what needs to be done with this product it has already reached the maturity level, the sales have become constant may be over a period of time the decline stage will start.

At that stage the company needs to decide what has to be done with the product and there is a famous saying that if you do not obsolete your product will be obsolete it from the market. So, that is the strategic decision or the product line decisions that has to be taken by the company in order to be successful in the market.

(Refer Slide Time: 28:01)



(Refer Slide Time: 28:02)

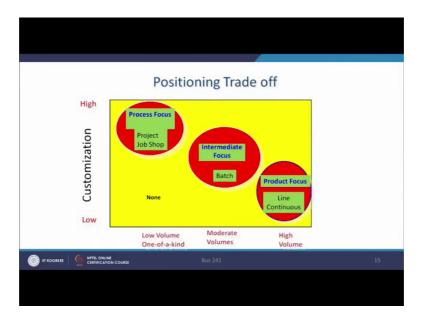


Now, competitive priorities we can see the competitive priorities are based on quality what is the performance of our product whether we are conforming to the standards, what is the service prices and other important parameter time is another important parameter and flexibility, is another parameter flexibility in terms of product mix or we are going to focus on 1 product or a variety. The order rather the customer wants variety or the customer wants a quality product, which may be of a single colour product variety means that suppose you have a cell phone it may come in a single colour it may come in 6 different colours

Now, 6 different colours means you a customer has a variety from which the customer can pick a specific colour. So, from competition point of view the company has to focus or focus it is operations strategy on; the quality of the product the price of the product that time. As these are the 3 important objectives if you remember of our course on operations management why do we need to do operations management?

Because we have to deliver quality we have to be competitive cost wise we have to deliver at right time, which is given here introduction and delivery and we have to be flexible in which the volume is also given. So, we these are the 4 important things which are important from competition point of view that is quality, quantity, time and cost and finally, the positioning and the operations strategy.

(Refer Slide Time: 29:34)



So, here you can see we have seen that we have to make a strategy that what should be our product? What should be the product line in which we are focusing our attention on?

Now, we have to see once we know that what is the product we have to focus on? How to make that product? And here we can see that is the customisation on y axis, you can see is the customization is low. Low means that standard products are made minimum variety and customisation is high; which means that a lot of varieties of products are being made. On x axis we can see we have low volume one of a kind type products and high volume may be large number of products of being produced 1000 of cars are being produced in a year.

So, there we can see we have we can focus on the type of manufacturing system, type of production system of that we are going to adapt or that we are going to follow. Here very easily very quickly we can see. That when low volume the number of products to be produced is less and the customisation is high. For example, I want to get a shirt stitched as per my particular dimensions or as per the details for as per the specifications maybe a pocket here and a pocket here or maybe a specific design on the shoulders may that is one type of shirt I want to make.

So, the volume is less we do not want thousand such shirts we want one shirt only. So, the customisation is high, the customisation is high, but the volume of production is low. So, what type of system we will use they will use a job shop type of production system

or a intermittent and type of production system, but when the volumes are high then we can see that, we will use batch type of production system and when the volumes are very very high way as I have given an example thousands of cars produced in a year or in a on a quarterly basis, we will use a line type of production system or a continuous type of production system or we can say mass type of production system.

So, for high volume mass type of production system, but the customisation is low for any car you take any standard car any company. If you see large number of such cars or producer volume is large number of cars is large, but the variety is less same car you have to buy, but if you want to buy a completely customised car that the steering should be at this much height. The accelerator should be at this much length only as per your legs or length of your legs.

And the gears should be may be in the hands only gears should not be in gear should be at the steerings; only even sometimes you may say accelerator should be along with the steering. You do not want to use your foot for using the accelerator, then that is a specific type of product, which means it the volume of such type of product will be less you will be making only one such product. So, when the volume is less you will go for job shop type of production system.

So, we have to develop our strategies in such a way that the company is successful. So, with this we close today's session and as well as the discussion of week 1 of our course on operations management, with the thought that we have understood that what is operations management? What are the objectives of operations management? Then what are the, we can say functions and scope of operations management? What are the different types of production system?

And what type of operations strategy we have to develop what are the factors we need to keep in mind and with last that last point that we have to effectively and efficiently make use of our resources in order to be successful in the business environment. And the course on operations management will equip us with tools and techniques, which will help us to achieve the objectives functions laid out in week 1.

Thank you.